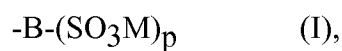


AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Cancelled)

2. (Currently Amended) The use as ~~claimed in claim 1~~ process of claim 16, characterized in that silica sols used are those which have, bonded to a silicon atom, a group of the formula I and/or II,



in which

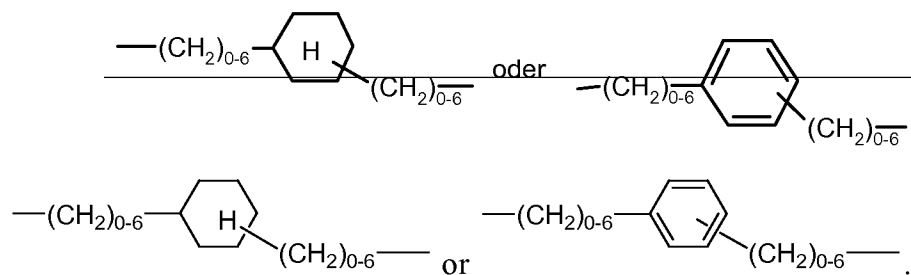
B is a (p+1)-valent bridge member,

p is a number from 1 to 3 and

M is hydrogen, an alkali metal, in particular Na, Li or K, an alkaline earth metal, in particular Mg, Ca or ammonium.

3. (Currently Amended) The use as ~~claimed in claim 2~~ process of claim 2, characterized in that

B ~~is~~ is bivalent, p is 1, ~~or B is in particular~~ a linear or branched alkylene group optionally interrupted by one or more oxygen atoms and having 1 to 15 C atoms, a cycloalkylene group having 5 to 8 C atoms or a unit of the formulae



4. (Currently Amended) The use as ~~claimed in claim 2~~ process of claim 2, characterized in that B is $-(\text{CH}_2)_n$ where n is from 1 to 6, ~~in particular 3~~.

5. (Currently Amended) The ~~use as claimed in claim 1~~process of claim 16, characterized in that the silica sol has a radical of the formula Ia,



in which

M_— is hydrogen, an alkali metal, an alkaline earth metal or ammonium.

6. (Currently Amended) The ~~use as claimed in claim 1~~process of claim 16, characterized in that the silica sols have a mean particle size of less than 400 nm, determined by the TEM method.

7. (Currently Amended) The ~~use as claimed in claim 1~~process of claim 16, characterized in that the silica sol is used in combination with cationic polymers as a microparticle system in paper production.

8. (Currently Amended) The ~~use as claimed in claim 7~~process of claim 7, characterized in that polyethylenimines, polyamidoamines, polyacrylamides, polyvinylamines, starch or guar flour is used as the cationic polymer.

9. (Original) A process for the production of paper, characterized in that a silica sol containing sulfonic acid groups and/or mercapto groups and a cationic polymer are added to an aqueous cellulose suspension in any desired sequence, and sheet formation, drainage and drying of the sheet are then carried out.

10. (Currently Amended) A silica sol containing sulfonic acid groups ~~and/or mercapto groups~~ and having a mean particle size, measured according to TEM, of 2-45 nm, ~~preferably of 2-20 nm~~.

11. (Currently Amended) A silica sol containing sulfonic acid groups ~~and/or mercapto groups~~ and having a sulfur content, based on SiO₂ of the silica sol, of from 0.1 to 30 mol%, ~~preferably from 0.1 to 8 mol%, in particular from 1 to 5 mol%~~.

12. (Currently Amended) The silica sol as claimed in claim 10 and/or 11, characterized in that it has a radical of the formula $-(CH_2)_3-SO_3M$, in which M is H, an alkali metal, an alkaline earth metal or ammonium.

13. (Currently Amended) A process for the preparation of the silica sols according to claim 10 and/or 11, characterized in that a silica sol which is free of ~~SH and~~ SO_3M groups and in which M has the above meaning,

~~for the optional introduction of the SH groups,~~

a) ~~is reacted with mercapto compounds and~~

~~for the optional introduction of the sulfonic acid groups,~~

b~~a~~) is reacted with a compound containing SO_3M groups, or

b1b) is reacted with a compound containing a functional group and the functional group itself is converted into an SO_3M group, ~~in particular the mercapto compound obtained according to a) is oxidized,~~ or

b2c) is reacted with a compound containing a functional group and the silica sol derivatized in this manner is further reacted with a compound containing SO_3M groups,

the reaction is carried out in an aqueous medium having a water content of at least 75% by weight in at least one of the stages a), b), b1) ~~or b2)~~ or c), based on the mass of the respective reaction mixture.

14. (Original) A silica sol obtainable by a process as claimed in claim 13.

15. (Currently Amended) A paper characterized in that it contains a silica sol as claimed in claim 10, or 11, ~~12 or 14~~.

16. (New) A process for the production of paper, characterized in that a silica sol containing sulfonic acid groups and/or mercapto groups is added to an aqueous cellulose suspension, and sheet formation, drainage and drying of the sheet are then carried out.

17. (New) The process as claimed in claim 2, wherein the retention is increased by the presence of microparticles which are silica sols containing sulfonic acid groups and/or mercapto groups.

18. (New) The process as claimed in claim 2, characterized in that M is an alkali metal selected from the group consisting of Na, Li and K, or an alkaline earth metal selected from the group consisting of Mg and Ca.

19. (New) The process as claimed in claim 4, characterized in that B is $-(CH_2)_n$ where n is 3.

20. (New) The silica sol as claimed in claim 10, having a mean particle size, measured according to TEM, of 2-20 nm.

21. (New) The silica sol as claimed in claim 11, having a sulfur content, based on SiO_2 of the silica sol, of from 0.1 to 8 mol%.

22. (New) The silica sol as claimed in claim 19, having a sulfur content, based on SiO_2 of the silica sol, of from 1 to 5 mol%.

23. (New) The process as claimed in claim 13, wherein according to b) the silica sol is reacted with mercapto compounds and the mercapto compound obtained is oxidized.